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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/818,123	03/27/2001	Frank Sauer	2001P05535US	8633

7590 08/28/2006

Siemens Corporation
 Intellectual Property Department
 186 Wood Avenue South
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EXAMINER

GOOD JOHNSON, MOTILEWA

ART UNIT	PAPER NUMBER
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2628

DATE MAILED: 08/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/818,123	Applicant(s) SAUER, FRANK	
	Examiner Motilewa Good-Johnson	Art Unit 2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 19 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 31-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 31-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 06/19/2006 has been entered.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 31-35 are rejected under 35 U.S.C. 101 because the claimed invention is directed to a method, which merely manipulates an abstract idea, and produces no tangible result which is non-statutory subject matter.

Claims that are noted above as being rejected but that are not specifically cited below are rejected based on their dependency on rejected independent claims as incorporating the errors of those claims and not imparting any features leading to statutory subject matter.

With respect to claim 31, the claim recites "a method for augmented reality guided positioning of an instrument tip within a target located in an object comprising

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the steps of: presenting an augmented reality view by overlaying a virtual graphics guide onto a real view of the object and an instrument, the graphics guide comprising a virtual depth marker located outside of the object; aligning the instrument to the graphics guide; inserting the instrument to a depth determined in the augmented view by alignment of a predetermined feature of the instrument with the virtual depth marker, the feature being located along the length of the instrument at a certain distance from the instrument tip, and remains external to the object during insertion.

The disclosed invention has a practical application, e.g., the positioning of an instrument in an augmented reality view by positioning a graphics guide with a virtual depth marker and inserting the instrument. The disclosed invention is within the technological arts, i.e., the disclosed invention uses a computer-aided design system. However, the steps of the method do not recite any post-computer process activity, i.e., no independent physical acts, and the steps of the method do not recite any pre-computer process activity, i.e., no manipulation of data representing physical objects or activities.

Therefore, in order to determine if the process is statutory, one must determine what the computer does to achieve a practical application. A process that merely manipulates an abstract idea is non-statutory despite the fact that it might inherently have some usefulness. For such subject matter to be statutory, the claimed process must be limited to a practical application of the abstract idea. Examiner finds no limitation to a practical application for the claimed method. Therefore, when taken as a

whole, the claim recites manipulation of an abstract idea. See *In re Schrader*, 22 F.3d 290, 30 USPQ2d 1455 (Fed. Cir. 1994), and *In re Warmerdam*, 33 F.3d 1354, 31 USPQ2d 1754.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 31-40 are rejected under 35 U.S.C. 102(e) as being anticipated by Simon, U.S. Patent Number 6,470,207.

Regarding claim 31, Simon discloses a method for augmented reality guided positioning of an instrument tip within a target located in an object comprising the steps of: presenting an augmented reality view by overlaying a virtual graphics guide onto a real view of the object and an instrument (col. 9, lines 16-50, see also figure 10), the graphics guide comprising a virtual depth marker located outside of the object (col. 9, lines 51-56); aligning the instrument to the graphics guide (col. 11, lines 30-35); inserting the instrument to a depth determined in the augmented view by alignment of a predetermined feature of the instrument with the virtual depth marker (col. 9, lines 51-

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65), the feature being located along the length of the instrument at a certain distance from the instrument tip, and remains external to the object during insertion.

Regarding claim 32, determining an optimal location for the instrument with respect to the target (col. 12, lines 63-65); calculating the proximity of the predetermined portion of the instrument to the target based on the optimal location and the geometry of the instrument (col. 12, lines 25-45); using the proximity calculation to determine the position of the virtual depth marker on the graphics guide (col. 7, line 66 - col. 8, lines 1)

Regarding claim 33, Simon discloses the proximity calculation comprises a range a proximity measurements (col. 7, lines 45-65)

Regarding claim 34, Simon discloses the proximity calculation corresponds to a final forward position of the predetermined portion of the instrument with respect to the target (col. 9, lines 25-28)

Regarding claim 35, Simon discloses the proximity calculation corresponds to a distance between the virtual depth marker and a point within the target (col. 9, line 51 – col. 10, lines 9)

Regarding claim 36, Simon discloses an apparatus for augmented reality guided instrument positioning of an instrument tip within a target located in an object comprising: a virtual graphics guide generator and positioned for generating and positioning a virtual graphics guide (figure 10), the graphics guide comprising a virtual depth marker located outside of the object; and a rendering device (120, computer, which Examiner interprets as a rendering device) for rendering the virtual graphics guide onto a real view of the object and an instrument (col. 8, lines 30-36) such that the instrument can be inserted to a depth determined in the augmented view by alignment of a predetermined feature of the instrument with the virtual depth marker (col. 9, lines 16-25) the feature being located along the length of the instrument at a certain distance from the instrument tip, and remains external to the object during insertion.

Regarding claim 37, wherein said virtual graphics guide generator and positioned determines an optimal location for the instrument with respect to the target (col. 12, lines 63-65), and calculated the proximity of said predetermined portion of the instrument to the target based on the optimal location and the geometry of the instrument (col. 12, lines 25-45)

Regarding claim 38, the proximity comprises a range of proximities and said virtual graphics guide generator and position determined an optimal range of locations for the predetermined portion of the instrument with respect to the target (col. 7, lines 45-65) and calculates the range of proximities of the predetermined portion of the

instrument to the target based on the optimal range and the geometry of the instrument
(col. 9, line 51 – col. 10, lines 9)

Regarding claim 39, Simon discloses the proximity corresponds to a final forward position of the predetermined portion of the instrument with respect to the target (col. 9, lines 25-28)

Regarding claim 40, Simon discloses a display device (121, col. 8, lines 31-33) to display the augmented view rendered by the rendering device to the user.

Response to Arguments

3. Applicant's arguments filed 11/16/2005 have been fully considered but they are not persuasive.

Applicant argues that Simon fails to disclose a depth marker located outside of the object or a feature of the instrument that remains external to the object. It is the interpretation of the Examiner that Simon discloses in figure 10, a virtual cone, 1012, i.e. depth marker, located outside of the object. The virtual cone has a coordinate system that can be defined by three points, one of which is its apex, the vertex point at the bottom of the cone. Thus, the apex represents a depth of the cone relative to other points defining the cone such as a point along the central axis of the cone (col. 12, 11. 15-45). Simon further discloses a feature of the instrument that remains external to the object, 1040. Simon teaches the tip of the instrument corresponds to a fixed point along

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an axis of the cone, such that the orientation and movement of the instrument tip corresponds to the orientation of the cone (col. 12, lines 35-45), enabling alignment of the virtual and actual cone for instrument insertion. Therefore, based upon the above rationale, the rejection of claims 31-40 is maintained.

Conclusion

4. This is a continuation of applicant's earlier Application No. 09/818,123. All claims are drawn to the same invention claimed in the earlier application and could have been finally rejected on the grounds and art of record in the next Office action if they had been entered in the earlier application. Accordingly, **THIS ACTION IS MADE FINAL** even though it is a first action in this case. See MPEP § 706.07(b). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no, however, event will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Motilewa Good-Johnson whose telephone number is (571) 272-7658. The examiner can normally be reached on Monday, Tuesday and Wednesday 9:00 AM - 6:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Motilewa Good-Johnson
Examiner
Art Unit 2628

mgj



KEE M. TUNG
SUPERVISORY PATENT EXAMINER